Quiz Results

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Question 1: What is the primary focus of the EDUGRAM framework?

A. General-purpose accessibility tools.

B. Developing video games.

C. A multimodal educational framework for differently-abled learners.

D. Improving internet speed.

Explanation: The abstract clearly states that EDUGRAM is a 'multimodal educational framework that blends transformer-powered natural language processing, adaptive content delivery methods, and deep learning-based gesture recognition' for differently-abled learners.

Question 2: What is the accuracy of EDUGRAM in recognizing American Sign Language (ASL) in educational settings?

A. 85.5%

B. 96.8%

C. 73%

D. 99.9%

Explanation: The abstract states that the system shows '96.8% accuracy in recognising American Sign Language (ASL) in educational settings'.

Question 3: Approximately what percentage of the global population has a disability, according to the introduction?

A. 5%

B. 10%

C. 16%

D. 25%

Explanation: The introduction states that 'approximately 1.3 billion people with disabilities, or 16% of the global population'.

Question 4: Which of the following is NOT a key component of the EDUGRAM framework?

A. Transformer-powered natural language processing

B. Adaptive content delivery methods

C. Deep learning-based gesture recognition

D. Quantum computing algorithms

Explanation: The abstract mentions transformer-powered natural language processing, adaptive content delivery methods, and deep learning-based gesture recognition as key components. Quantum computing algorithms are not mentioned.

Question 5: How many participants were involved in the experimental validation of EDUGRAM?

A. 100

B. 250

C. 500

D. 1000

Explanation: The abstract mentions 'extensive experimental validation, which involved 250 participants with a range of disability profiles'.

Question 6: In which two countries were user studies conducted for EDUGRAM?

A. USA and Canada

B. India and China

C. USA and India

D. Canada and China

Explanation: The passage mentions 'user studies with 250 participants from six educational institutions in the US and India'.

Question 7: What architecture is used in the EDUGRAM framework for sign language recognition?

A. Recurrent Neural Network

B. Convolutional Neural Network

C. Hybrid CNN-Transformer

D. Generative Adversarial Network

Explanation: The abstract refers to 'hybrid CNN-Transformer architecture created especially for gesture recognition'.

Question 8: What is the main drawback of sensor-based sign language recognition systems?

A. Low accuracy

B. High cost and portability issues

C. Difficulty recognizing complex gestures

D. Inability to process data in real time

Explanation: Section II A states 'High levels of accuracy are achieved by sensor-based systems using tools like Kinect or specialised gloves, but they have serious cost and portability issues'.

Question 9: What is the purpose of the federated learning implementation in EDUGRAM?

A. To increase the computational power of the system.

B. To protect user privacy and allow for ongoing model enhancement.

C. To reduce the cost of hardware components.

D. To improve the system's visual appeal.

Explanation: The abstract and introduction both mention that federated learning is employed 'to protect privacy and allow for ongoing model enhancement'.

Question 10: Compared to traditional assistive technologies, what percentage increase was observed in learning engagement using EDUGRAM?

A. 50%

B. 63%

C. 73%

D. 87%

Explanation: The abstract states 'we found significant improvements in learning engagement (87% increase)' when compared to traditional assistive technologies.